and sugar-beet land, was flooded. No other reclaimed land in the Yolo Basin was inundated.

The losses incurred in the Sacramento Basin are estimated at about $45,000, mostly to prospective crops. The figures for the estimated losses in the San Joaquin Basin flood are not available at this time but will be reported in a later issue of the REVIEW.

CORRECTIONS FOR FEBRUARY 1937 REVIEW, PAGE 86, TABLE OF FLOOD STAGES

Date of crest at Yazoo City, Miss., "Feb. 24" should be "Feb. 24, Mar. 1."

Dates above flood stage: Greenville, Miss. "To Mar. 8" should be "To Mar. 12." Vicksburg, Miss., "To Mar. 15" should be "To Mar. 14."

Table of flood stages during March 1937

[All dates in March unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE					
	Feet			*Feet*	
Peedee: Mars Bluff Bridge, S. C	17	Feb. 24	1	17.6	Feb. 26, 27
Santee:					
Rimini, S. C	12	Dec. 31	(1)	18.8	Feb. 10
				13.6	28
Ferguson, S. C	12	Jan. 1	(1)	14.2	Jan. 10, 11
Savannah:					
Ellenton, S. C	14	Jan. 16	5	21.2	Feb. 13
		12	13	14.2	13
		17	30	17.3	19
Clyo, Ga	13	Jan. 26	9	16.6	Feb. 18
				16.0	2
Ogeechee: Dover, Ga	7	3	5	7.2	4
Ocmulgee: Abbeville, Ga	11	Feb. 27	3	12.1	1
		24	29	11.9	27
Altamaha:					
Charlotte, Ga	12	Jan. 28	9	15.9	Feb. 22
				15.7	3, 4
		22	(1)	14.8	29, 30
Everett City, Ga	10	Feb. 22	11	10.8	Feb. 26
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla	15	Jan. 21	8	19.5	Feb. 26
		22	(1)	19.9	25
Cahaba: Centerville, Ala	23	20	21	28.6	20
Alabama: Millers Ferry, Ala	40	24	26	42.2	25
Tombigbee:					
Lock No. 4, Demopolis, Ala	39	22	26	41.6	24
Lock No. 3	33	Jan. 2	1	57.9	Feb. 2
		21	31	43.9	25
Lock No. 2	46	25	26	46.1	25
Lock No. 1	31	Jan. 5	2	40.2	Feb. 4–6
		23	(1)	34.3	27
Pearl:					
Jackson, Miss	18	Feb. 25	5	21.0	1
		27	29	18.2	28
Pearl River, La	12	Feb. 26	15	12.8	Feb. 28
		24	(1)	13.2	27

Table of flood stages during March 1937—Continued

[All dates in March unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
	Feet			*Feet*	
Rock: Moline, Ill	10	Feb. 21	18	14.7	6
Cedar: Cedar Rapids, Iowa	13	9	9	13.7	9
Iowa:					
Iowa City, Iowa	8	3	16	14.6	7
Wapello, Iowa	10	6	15	14.6	8
Skunk: Augusta, Iowa	15	7	7	15.1	7
		12	12	15.5	12
Raccoon: Van Meter, Iowa	13	4	4	14.0	4
		6	6	14.0	6
Des Moines:					
Tracy, Iowa	14	4	10	17.9	5
Ottumwa, Iowa	9	5	10	14.7	6
Illinois:					
Havana, Ill	14	Feb. 22	5	14.7	Feb. 26
Beardstown, Ill	14	Feb. 23	6	15.1	Feb. 27, 28
Mississippi:					
Keithsburg, Ill	12	8	13	13.2	10
Keokuk, Iowa	12	7	15	16.1	10
Quincy, Ill	14	7	16	18.2	11
Hannibal, Mo	13	7	17	17.8	12
Grafton, Ill	18	14	16	18.2	15
Missouri Basin					
Grand:					
Gallatin, Mo	20	4	5	22.8	5
Chillicothe, Mo	18	4	7	25.2	5
Big Sioux: Akron, Iowa	12	7	[2] 10	13.0	10
Ohio Basin					
West Fork of White: Anderson, Ind	8	5	9	8.0	5–9
		21	31	8.6	25, 26
Red Basin					
Black: Jonesville, La	50	Feb. 9	(1)	55.8	4–7
Sulphur:					
Ringo Crossing, Tex	20	5	9	22.7	5
		15	15	21.1	15
		24	27	22.6	24
Naples, Tex	22	8	20	25.8	11
		26	(1)	26.6	29
Lower Mississippi Basin					
Yazoo: Yazoo City, Miss	29	Jan. 29	31	37.1	Feb. 24, 1
Atchafalaya Basin					
Atchafalaya: Atchafalaya, La	22	Jan. 22	(1)	25.9	7–9
WEST GULF OF MEXICO DRAINAGE					
Trinity: Liberty, Tex	24	16	18	24.3	17, 18
Guadalupe: Victoria, Tex	21	8	9	22.4	9
PACIFIC SLOPE DRAINAGE					
San Joaquin Basin					
Mokelumne: Bensons Ferry, Calif	12	22	24	14.4	23

[1] Continued into April. [2] Fell slightly below flood stage on 9th.

WEATHER ON THE ATLANTIC AND PACIFIC OCEANS

[The Marine Division, I. R. TANNEHILL in charge]

NORTH ATLANTIC OCEAN, MARCH 1937

By H. C. HUNTER

Atmospheric pressure.—The northeastern and north-central portions of the North Atlantic had much higher pressure averages than normal; so that the Iceland region had about as high averages as any part of the ocean area, and the chief low-pressure region was far to the southeastward, near the southern parts of the British Isles and the North Sea. At Horta the pressure averaged moderately below normal, and the Azores high likewise had moved southeastward to the Madeira-Canaries region. As for western portions, pressure was somewhat below normal near the Gulf of St. Lawrence and for considerable distances to southward and southeastward; but the departures decreased to southwestward, so that for the Gulf of Mexico as a whole pressure was near normal.

The extremes of pressure indicated by vessel reports are 30.53 and 28.45 inches. The higher reading was noted on the Italian steamship *Ida Z. O.*, on the forenoon of the 17th, near 33° N., 42° W. Reykjavik, Iceland, on the 8th had slightly greater pressure, as table 1 shows. The lower reading was made on the American liner *Manhattan*, early on the 15th, near 48° N., 32° W.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, March 1937*

Stations	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Julianehaab, Greenland	29.88	+0.21	30.48	10	29.18	2
Reykjavik, Iceland	30.08	+.40	30.59	8	23.88	31
Lerwick, Shetland Islands	29.75	+.05	30.36	30	29.21	14
Valencia, Ireland	29.61	−.29	30.18	29	28.79	11
Lisbon, Portugal	29.99	−.01	30.30	1	29.29	4
Madeira	30.09	+.08	30.27	1	29.81	13
Horta, Azores	30.03	−.15	30.38	7	29.70	14
Belle Isle, Newfoundland	29.63	−.20	30.30	16	28.92	24
Halifax, Nova Scotia	29.77	−.19	30.26	4,15	29.20	29
Nantucket	29.84	−.14	30.40	3	29.29	16
Hatteras	29.98	−.06	30.48	3	29.57	25
Bermuda	29.98	−.16	30.40	4	29.42	28
Turks Island	29.98	−.04	30.12	4	29.83	28
Key West	29.98	−.07	30.29	30	29.77	27
New Orleans	30.07	+.03	30.47	2	29.69	24

NOTE.—All data based on a. m. observations only, with departures compiled from best available normals related to time of observation, except Hatteras, Key West, Nantucket, and New Orleans, which are 24-hour corrected means.

Cyclones and gales.—The chief turbulent periods of March on the North Atlantic were the first 6 days and the period from the 14th to 17th. During the earlier period the ocean area showed several strong centers of low pressure. One was in the vicinity of the Bay of Biscay about the 3d to 5th, resulting in intense winds over a large area, particularly in northwest gales between the Azores and the Iberian Peninsula. On the eastbound Italian liner *Rex* one fatality and numerous injuries resulted from high seas encountered.

Another LOW, near mid-Atlantic about 45° north latitude, on the 4th and 5th, showed pressure considerably below 29 inches. In connection with this, the first instance of force-12 wind during the month was noted, the liner *American Importer* meeting it near 46° N., 40° W., on the 4th, while bound from Belfast to Boston. It was more than 48 hours later, in connection with still another storm center, that the second occurrence of hurricane winds was noted, this being the final instance of such force in March over the North Atlantic insofar as reports are now available. This center hovered near the Gulf of St. Lawrence and Newfoundland from the 4th to the 8th, and about 500 miles to south-southeastward of Cape Race the American steamship *Exminster*, Lisbon to New York, noted force 12 late on the 6th.

A disturbance of much importance to the waters just east of the United States was centered near Savannah, Ga., on the morning of the 15th, whence it moved northeastward to near Long Island, and then more to northward to the heart of the Province of Quebec. Strong winds were encountered by vessels near the coast, as shown on chart IX, which presents the conditions on the 16th. A LOW of even greater intensity appears on this chart about 500 miles west-southwest of Ireland, where vessels passing between English Channel ports and the northeastern United States were reporting some of the lowest pressure readings of the month.

The winds and seas connected with a vigorous LOW, located on the 22d to southeastward of Nova Scotia, were probably the chief factors in causing the distress of the Norwegian steamship *Bjerkli*, which sank late on the 23d near 40° N., 58° W., the crew being rescued by the cutter *Chelan*.

During the 25th a LOW of considerable and rapidly increasing energy crossed the coast line eastward near New Jersey and advanced to the southern tip of the Grand Banks, becoming part of a large low-pressure system which covered the region embracing the St. Lawrence Gulf, southern Greenland and the midocean area for several days, and, in conjunction with a very strong HIGH centered usually over or near Manitoba, caused strong offshore winds near the eastern coast of the United States. The situation on the 26th is presented on chart X.

Strong winds in or near the Tropics.—About the 8th a strong norther near Tuxpam, in the western Gulf of Mexico, caused the stranding of three barges, one of which broke in two and became a total loss. A fourth barge was apparently lost off shore.

The British steamship *Jamaica Merchant*, approaching Vera Cruz on the 15th, was overtaken by a norther of marked intensity (force 9), but made port readily.

Harbour Island, in the northwestern part of the Bahama group, reported a tornado on the 31st. A small area was affected, with destruction of nine houses; one woman was reported killed, with two other persons hurt.

Ice.—Densely packed ice prevailed in the vicinity of St. Johns, Newfoundland, almost or quite all the month. Several steamers that tried to force their way through were damaged as to bow or propeller; and one outward-bound steamer (British *Delia*) was crushed till leaking so badly that it was abandoned a few miles west of Cape Race; the crew walked ashore.

Fog.—The Atlantic Ocean, as a whole, had less fog than usual during March. It was particularly the case with the portion along the chief steamship lanes to northwestern Europe from the 40th meridian eastward that there was less fog than during February just preceding. Indeed, from the Bay of Biscay and the waters around it and for about 700 miles to westward reports indicate almost complete absence of fog.

From the eastern limits of the Grand Banks to the eastern coast of the United States and from Maine to South Carolina there was generally an increase of fog from February to March; but in most areas the increase was not so great as usually occurs at this time of year. From the waters directly south of Newfoundland westward to Cape Cod the March fogginess was still far below the normal for the month; while in the 5° square, 35° to 40° N., 70° to 75° W., the square considered to have the most fog of North Atlantic areas, there were 8 days with fog, or about the expected amount for this vicinity.

In lower latitudes of the western North Atlantic there were a few notable fog reports. The grounding of the Norwegian steamship *Iristo* on a reef on the north side of Bermuda, during the night of the 14–15th, is believed to have been due to fog. The vessel was soon refloated, but sank while trying to make port, all hands being saved. Northeast of the Bahama group fog was noted on the 21st. In the Gulf of Mexico a little fog was seen about this time near western Cuba, while in the northwestern Gulf fog was more prevalent than often happens in March, being observed on 7 days, all in the period from 18th to 26th, inclusive.